

THERE IS SOMETHING NEW UNDER THE SUN: HUMANS' GIANT EXPERIMENT ON THE EARTH

Something New Under the Sun: An Environmental History of the Twentieth Century World,

J. R. McNeil (W. W. Norton, 2000)

Reviewed by Herman Greene

Ecclesiastes laments:

4 A generation goes, and a generation comes, but the earth remains forever. 5 The sun rises and the sun goes down, and hurries to the place where it rises. . . . 8 All things are wearisome; more than one can express; the eye is not satisfied with seeing, or the ear filled with hearing. 9 What has been is what will be, and what has been done is what will be done; there is nothing new under the sun. 10 Is there a thing of which it is said, "See, this is new"? It has already been, in the ages before us.

J.R. McNeill, in *Something New Under the Sun: An Environmental History of the Twentieth-Century World*, answers back:

Most verses of Ecclesiastes contain useful wisdom for the ages. But the above words are now out of date. There is something new under the sun. The ubiquity of wickedness and the vanity of toil may remain as much a part of life today as when Ecclesiastes was written, in the third or fourth century B.C., but the place of humankind within the natural world is not what it was. In this respect at least, modern times are different, and we would do well to remember that. (P. xxi)

He continues, "The human race, without intending anything of the sort, has undertaken a gigantic, uncontrolled experiment on the earth. In time, I think that this will appear as the most important aspect of twentieth century history (p. 4)."

Many have emphasized such ideas as humans have become the dominant force in the environment and climate, the future is as much or more dependent on cultural selection than biological selection, and in the future humans will have a comprehensive influence on almost everything that happens. Standing alone these are general concepts without examples or documentation. *Something New Under the Sun* provides examples and documentation perhaps better than any other book, even though (as of the date of this issue) it is eighteen years old.

Case in point, in the second chapter on "The Lithosphere and Pedosphere: the Crust of the Earth," McNeil briefly explains that the lithosphere is Earth's outer shell of rock about 120 kilometers thick that floats on Earth's large core of molten rock and is the locus of plate tectonics. The pedosphere, Earth's soil, is the outer skin of Earth, a membrane seldom more than hip deep and often less, between the lithosphere and the atmosphere. Soil takes thousands of years to form. it is the source of sustenance for plants and is basic to human and animal survival.

Then McNeil describes how human activity has affected the soil through nitrates, nitrogen fertilizer, and potassium fertilizer. These fertilizers not only changed the soil, they changed what was grown in the soil from native plants to vast human crops. He writes next about soil pollution through industrial, mining, and military toxic wastes. Then he covers human movement of soil through mining, building human settlements and other uses, and causing soil erosion as a result of agricultural and other practices. He gives a chart (p. 30) that shows the causes of global annual transport of rock and soil. Human activities are greater than wind erosion, glaciers, mountain building, and volcanoes, and are second only to water.

Throughout the chapter McNeil gives examples of how human activities affect soil. He also gives a history of inventions and practices that increased human impact on soil. And he provides data on how much the human impact on soil has been.

Most of the chapters of the book follow the pattern of Chapter 2. McNeil covers, in addition to the lithosphere and the pedosphere, the

- Atmosphere – urban history
- Atmosphere – regional and global history
- Hydrosphere – history of water use and pollution
- Hydrosphere – depletions, dams, and diversions
- Biosphere – microbiota and land use and agriculture
- Biosphere – whaling and fishing, invasive species, and biodiversity and the sixth extinction

The last third of the book is concerned with the “engines of change”:

- More people and bigger cities
- Fossil fuels, technological change, and economic change
- Ideas and politics

In the Prologue and the Epilogue, McNeil reflects on what this radical 20th century environmental experiment means. He advances four propositions: (1) the 20th century was “unusual for the intensity of change and the centrality of human effort in provoking it”; (2) “this ecological peculiarity is the unintended consequence of social, political, economic, and intellectual preferences and patterns,” (3) our social preferences and patterns “are adapted to our current circumstances—the current climate, biogeochemistry, cheap energy and fresh water, rapid population and economic growth”; and (4) “these preferences and patterns are not easily adaptable should our circumstances change.” (P. xxii)

McNeil observes that in evolutionary terms some species are highly adaptable, such as rats, and others are supremely adapted (finely tuned), such as sharks, and are dependent on stable conditions. Some societies are supremely adapted and are highly successful so long as

conditions persist, but face crises when they change. Their “success easily translates into conservatism, orthodoxy, and rigidity. But it is not a bad strategy: it can work for centuries. *Or it could in the past, when humans lacked the power to disturb global ecology*” (p. xxiii, italics added).

In the 20th century many societies pursued the shark strategy amid an increasingly global ecology more suited for rats. They pursued adaptation to transitory circumstances—stable climate, cheap energy and water, and rapid population and economic growth.

It [was] not a bad gamble. . . . When individuals [and societies] seek status and wealth in a competitive [international system], the gamble is tempting. Those who reject it will lose out so long as present circumstances persist. So it is not a bad gamble unless one is concerned about the long run. . . . *We have created a regime of perpetual disturbance* . . . an accidental by-product of billions of human ambitions and efforts, of unconscious social evolution. (Pp. xxiii-iv, italics added)

McNeil’s last chapter is titled “So What?” For centuries, Earth in a sense pushed humans to their limits. “Few who know anything about life with these constraints will regret their passing.” Now, by pushing Earth to its limits, we have surpassed those old constraints only to find new constraints in the form of Earth’s capacity to absorb our waste, toxins, and other impacts. For a time these had only local effects but now they “restrict our options globally. Our negotiations with these constraints will shape the future as our struggles against [our old constraints] shaped our past.” Policymakers should not “take as their frame of reference the world as we know it.” The new normal is that we live in the “regime of perpetual disturbance.” (P. 362)